



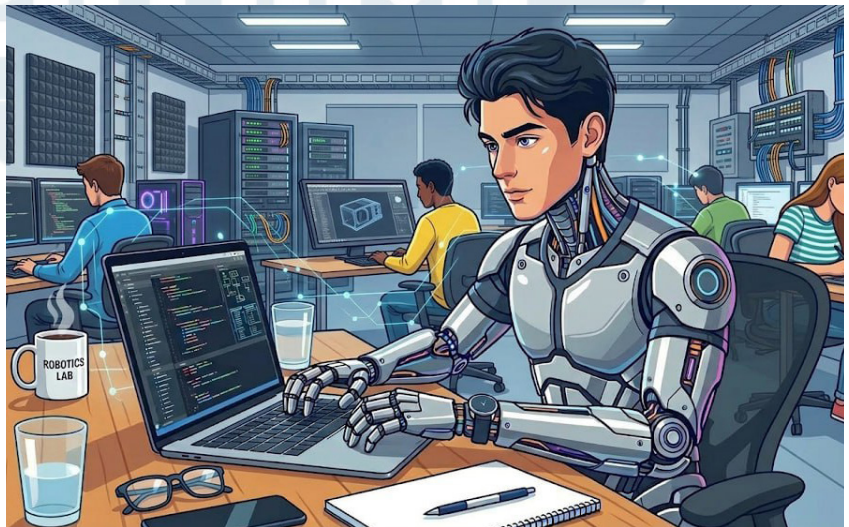
سلسلة كتب الأستاذ

ICT

Programming and Artificial Intelligence February and March

By

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February and March Model Exams

Model Exam



1 Put (✓) or (X):

- 1 A LAN connects computers all over the world. ()
- 2 In python, $x > 70$ means x is less than 70. ()
- 3 A DBMS is a software responsible for storing and managing data ()
- 4 Algorithms are not important in programming or artificial intelligence ()
- 5 An IP address is a unique identification number. ()
- 6 HTTPs protocol operates in the Internet layer. ()
- 7 In Python, We use `console.log()` to display numbers or text on the screen. ()
- 8 The terminal symbol in a flowchart is used to represent data input. ()
- 9 A variable acts like a box where data can be stored and retrieved. ()
- 10 A packet always contains a header with information about the sender and receiver. ()
- 11 In relational databases, fields are equivalent to columns. ()
- 12 JavaScript is the best language for artificial intelligence and statistics. ()
- 13 A DNS server is responsible for converting a Domain Name to an IP address. ()
- 14 The `**` symbol in python is the arithmetic operator for multiplication. ()
- 15 A student retrieving their exam results from a database is an example of the select operation. ()

- 16 A WAN covers a larger area than a LAN. ()
- 17 `range(0,4)` produces the numbers 0,1,2,3,4 ()
- 18 Sequential structure executes processes in random order. ()
- 19 Relational databases store data across multiple tables linked by relationships. ()
- 20 If two employees update the same record at the same time, data consistency ensures no errors occur. ()
- 21 In python, If $a = 5$ and $b = 3$, then `print(a / b)` will display 1. ()
- 22 UDP protocol ensures packets arrive in the correct order. ()
- 23 Projection in relational algebra means displaying only selected rows from a table. ()
- 24 A global IP address is used within a LAN. ()
- 25 Flowcharts use arrows to show the flow of data and control. ()
- 26 ISP is a company that provides connection to the internet. ()
- 27 `X = 90` is a correct way to assign a value to a variable in Python. ()
- 28 Numerical values must always be enclosed in single quotation marks. ()
- 29 A hospital database where doctors add new patient records is an example of the insert operation. ()
- 30 IPv6 uses 64 bits in binary to represent an address. ()
- 31 Indentation in Python is not important in loops. ()
- 32 It is better to represent Parallel process flows by flowcharts rather than activity diagrams. ()
- 33 TCP protocol is faster than UDP because it does not check for errors in packets. ()
- 34 Packet switching divides data into small packets before transmission. ()
- 35 In python, If $a = 7$ and $b = 3$, then `print(a % b)` will output 1. ()
- 36 In the TCP/IP model, the transport layer is responsible for routing packets. ()

- 37 A company that links its employee table with its payroll table is applying the join operation. ()
- 38 A mobile contact list is an example of a database used in daily life. ()
- 39 range(2,8,2) produces the numbers 2,3,5,7. ()
- 40 In Packet switching, packets never be lost or affected by congestion. ()
- 41 Communication protocols are necessary to ensure that devices can communicate in a network ()
- 42 Circuit switching allows many users to share the same path simultaneously. ()
- 43 SQL is considered a programming language for building operating systems. ()
- 44 Programs written in python can be directly understood by computer hardware. ()
- 45 The assignment operator is used to store a value in a variable. ()
- 46 The code range(3) starts the variable at 0 and ends at 2. ()
- 47 If a packet is lost during transmission, IP protocol will automatically request retransmission. ()
- 48 The client-server system involves one providing and one receiving services. ()
- 49 Data confidentiality in a database is achieved by backups and recovery. ()
- 50 In python, to output the name of your country, you write print(Egypt) ()



2 Choose the correct answer:

- 1 What is meant by a computer network?
 - a. A program for storing data.
 - b. A group of connected devices.
 - c. An output device.
 - d. An operating system.
- 2 is writing commands in a language the computer understands
 - a. Hacking
 - b. Programming
 - c. Networking
 - d. Data Base
- 3 Which protocol is used for communication over the Internet?
 - a. TCP/IP
 - b. USB
 - c. HDMI
 - d. VGA
- 4 Which of the following is a correct example of an IP address?
 - a. www.google.com
 - b. 192.168.1.1
 - c. google@com
 - d. http://site
- 5 A database is
 - a. A collection of unordered files
 - b. A word processing program.
 - c. An external storage device
 - d. An organized collection of data.
- 6 Which network model relies on a central main server?
 - a. Peer to Peer
 - b. LAN
 - c. Client / Server
 - d. PAN
- 7 Which of the following is an example of a programming language?
 - a. Windows
 - b. Python
 - c. Google
 - d. Excel
- 8 The server responsible for converting a domain name into an IP address is
 - a. DNS Server
 - b. File Server
 - c. Web Server
 - d. Mail Server
- 9 The execution result of `for i in range(0,1,5)` displays the numbers
 - a. 1,2,3,4,5
 - b. 0,1,2,3,4
 - c. 0,1,2,3,4,5
 - d. 1,2,3,4

- 10 What is meant by a Table in a database?
- a. A group of programs
 - b. A collection of related records
 - c. An image file
 - d. A storage device
- 11 A column in a database table is called a
- a. Record
 - b. Field
 - c. Key
 - d. Form
- 12 The benefit of Domain Name is
- a. Replacing an IP address with a name
 - b. Data encryption.
 - c. Increasing storage capacity.
 - d. Preventing internet connection.
- 13 Which element is used to display data in an organized manner ?
- a. Table
 - b. Report
 - c. Primary Key
 - d. Field
- 14 What is the function of an IP address in the network?
- a. Identifying the website name
 - b. Data protection
 - c. Increasing internet speed.
 - d. Identifying the location of a device
- 15 To check if a number X is even, the condition used is **if** (.....) .
- a. $X \% 2 \neq 0$
 - b. $X \% 2 = 0$
 - c. $X / 2 == 0$
 - d. $X \% 2 == 0$
- 16 A row containing one student's data is an example of
- a. record
 - b. field
 - c. column
 - d. Data type
- 17 The appropriate data type for storing a name is
- a. Number
 - b. Date
 - c. Text
 - d. Logical (Boolean)
- 18 Reports are used for
- a. Entering data
 - b. Modifying tables
 - c. Displaying data in a formatted layout
 - d. Creating databases

- 19 A Program is that perform a specific task
- a. An electronic device
 - b. A database
 - c. An image file
 - d. A set of instructions
- 20 An IPv4 address consists of
- a. 2 numbers only
 - b. 4 groups of numbers
 - c. 6 groups of letters
 - d. One long number.
- 21 The primary goal of using databases is
- a. Data redundancy (repetition)
 - b. Difficulty in accessing information.
 - c. Ease of storing and retrieving data
 - d. Increasing file sizes.
- 22 Which of the following is an example of a Local Area Network (LAN)?
- a. The Internet
 - b. An international network.
 - c. Connected devices within a building.
 - d. A satellite network.
- 23 A good program should be
- a. Complex
 - b. Unclear
 - c. Error-free (Bug-free)
 - d. Very long
- 24 The protocol is responsible for Identifying the device address on the network.
- a. IP
 - b. UDP
 - c. TCP
 - d. Ethernet
- 25 is a type of wired communication medium.
- a. Wi-Fi
 - b. Bluetooth
 - c. Infrared
 - d. Fiber optic cable
- 26 A row in a database table is called a
- a. Record
 - b. Form
 - c. Field
 - d. Query

- 27 The Primary Key in database is
- a. A field that repeats in the table
 - b. A field that uniquely identifies each record
 - c. A data entry form
 - d. A search query
- 28 The code `for i in range(3)` produces the same result as
- a. `range(2 ,3 ,0)`
 - b. `range(1 ,3 ,0)`
 - c. `range(3 ,1)`
 - d. `range(0 ,3)`
- 29 One of the benefits of learning programming is
- a. Increasing the size of the device
 - b. Solving problems in an organized way
 - c. Reducing computer speed
 - d. Preventing Internet use
- 30 Which of the following is considered a wireless communication medium?
- a. Fiber optic cable.
 - b. Copper cable.
 - c. Wi-Fi.
 - d. Ethernet
- 31 is a set of rules that govern the exchange of data.
- a. Programming
 - b. communication protocol
 - c. database
 - d. none of them
- 32 One of the benefits of using networks is
- a. Sharing resources — *مشاركة الموارد*
 - b. Sharing information
 - c. Reducing device efficiency
 - d. both a and b
- 33 Which of the following is NOT a programming language?
- a. Java
 - b. Python
 - c. HTML
 - d. Windows
- 34 A Database Management System (DBMS) is
- a. A computer hardware
 - b. A programming language.cg
 - c. A software to manage databases
 - d. An operating system.

- 35 A network that covers a large geographical area is called:
 a. LAN b. MAN c. PAN d. WAN
- 36 Which of the following is an example of a field in a Students table?
 a. Students' data b. A single student
 c. Seat number (ID) d. Results table
- 37 Before writing a program, you must
 a. Turn on the computer b. Understand the problem well
 c. Save the data d. Install the system
- 38 Wired connection is preferred because it is
 a. Less secure b. Slow
 c. More stable and secure d. Affected by interference.
- 39 Which type of connection offers the highest data transfer speed?
 a. Fiber optics b. Bluetooth
 c. Infrared d. Coaxial cable
- 40 Program testing aims to
 a. Increase code size
 b. Discover and correct errors (Debugging)
 c. Delete commands
 d. Change the programming language
- 41 One of the disadvantages of wireless communication is
 a. Ease of use b. Flexibility
 c. Low cost d. interference (noise)
- 42 Which of the following is used to distinguish between records within a table?
 a. Field b. Form c. Primary Key d. Query
- 43 Which of the following is an example of a Database Management System?
 a. Microsoft Access b. Google Chrome
 c. Microsoft Word d. Microsoft Windows

- 44 In a Peer-to-Peer model, devices are
- a. Linked to a main server
 - b. Unable to share files
 - c. Equal in permissions/privileges
 - d. Connected to the internet only.
- 45 The next step after writing a program is
- a. Understanding the problem
 - b. Executing and testing the program
 - c. Shutting down the computer
 - d. Deleting the code
- 46 Bluetooth technology is most commonly used for
- a. Global networks.
 - b. Communication via cables
 - c. Connecting short-range devices
 - d. Server networks.
- 47 The TCP protocol is responsible for
- a. Identifying the device address.
 - b. Ensuring data arrives complete and in order.
 - c. Translating domain names
 - d. Encrypting data.
- 48 A programming language is used to
- a. Write letters
 - b. Give commands to the computer
 - c. Draw pictures
 - d. Store files only
- 49 Which statement is true regarding communication protocols?
- a. They differ from one user to another.
 - b. They are unnecessary in networks.
 - c. They organize the communication between devices.
 - d. They are used in computers only.
- 50 What is the function of Forms in databases?
- a. Storing data
 - b. Easily entering and viewing data
 - c. Deleting tables
 - d. Creating networks

Answers

MODEL

- 1 1 X 2 X 3 ✓ 4 X
 5 ✓ 6 X 7 X 8 X
 9 ✓ 10 ✓ 11 ✓ 12 X
 13 ✓ 14 X 15 ✓ 16 ✓
 17 X 18 X 19 ✓ 20 ✓
 21 X 22 X 23 X 24 X
 25 ✓ 26 ✓ 27 X 28 X
 29 ✓ 30 X 31 X 32 X
 33 X 34 ✓ 35 ✓ 36 X
 37 ✓ 38 ✓ 39 X 40 X
 41 ✓ 42 X 43 X 44 X
 45 ✓ 46 ✓ 47 X 48 ✓
 49 X 50 X

- 2 1 b 2 b 3 a 4 b
 5 d 6 c 7 b 8 a
 9 b 10 b 11 b 12 a
 13 b 14 d 15 d 16 a
 17 c 18 c 19 d 20 b
 21 c 22 c 23 c 24 a
 25 d 26 a 27 b 28 d
 29 b 30 c 31 b 32 d
 33 d 34 c 35 d 36 c
 37 b 38 c 39 a 40 b
 41 d 42 c 43 a 44 c
 45 b 46 c 47 b 48 b
 49 c 50 b